A DISCUSSION PAPER
ON THE PURPOSE AND DESIGN
of
HARVEST STUDIES

Presented to
The Honourable J. Hugh Faulkner,
Minister of Indian & Northern Affairs

by

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. INTRODUCTION

The objective of this paper is to provide the affin Region Inuit Association, and the Department of Indian nd Northern Affairs, with a perspective on the purpose and ethod of research on harvesting of biological resources by nuit. It will set out some of the general principles that nderlie such research, and will describe some of the important riteria that must be considered in the design and execution f specific studies.

It is intended that this information provide a ramework and guideline for the design of harvest studies that ill meet the particular needs and conditions of local communities r regions. It is not considered to be a research design in tself, but rather, to provide a source for further consultation nd discussion, that will then lead to the development of pecific research design for the communities that comprise affin Region. At this, initial stage, it is important that he Department of Indian and Northern Affairs agree with the rinciples set out in the following pages, before the merits f particular data collection methods are discussed at the ommunity level.

II. THE PURPOSE AND NATURE OF HARVEST STUDIES

Harvest studies can be defined as the orderly collection and systematic recording of harvest totals for all species of food and fur resources, by appropriate individual or household units, according to designated time periods and geographical areas. The details contained in this definition will be discussed in the following section.

Harvest studies must be designed and carried out to provide a precise estimate of the returns from the lands and waters where Inuit apply their intellectual, physical and technological skills as hunters, fishermen and trappers. The numbers that result from the study of this process are a measurement of the economic productivity of Inuit social groups, and this measurement must not be confused with attempts to establish the biological productivity of the resource base itself. These two goals are separate, and they cannot be successfully combined within a single study. Information on both the economic and biological producitvity of the resource base is needed, but the immediate value derived from harvest studies makes these the essential first step.

The importance of harvest research lies in four major areas. First, the 1) accumulation of specific data, systematically collected, will reduce the frequently encountered problem of an inadequate or non-comparable data base. Second, the findings will provide a 2) vital measurement of Inuit participation in a land-based economy, thus clarifying the relationship between wage labour and hunting as economical ways of life. Third, the quantitative data derived from a harvest study will give a clear 3) indication of the volume and value of production from the land, providing a base for comparing land-based and other northern economies, in terms of production and value as well as of participation. And fourth, direct participation in harvest research will serve as a means by which Inuit can translate their frequently stated concerns for, and attachments to, the traditional resources, into a 4) program of action on the conservation, management, utilization and cultural significance of the resource base. Considered together, these four factors represent a method of establishing the self-sufficiency of the northern people, in that most vital aspect of human endeavour —— the ability to feed oneself and one's family. The use of harvest studies to devise an in-depth analysis of self-sufficiency, will be a critical part of future planning with respect to northern economic and social goals.

II. THE DESIGN OF HARVEST STUDIES

In order to convert the general principles iscussed above into a specific design for research, several riteria must be met:

1. that the studies are initiated and controlled by the native people, but with joint participation in all phases of design and execution from the appropriate government agencies, and, if the situation warrants, corporate bodies;

2. that simultaneous studies be carried out in all of the communities of a region, in order to acquire baseline information, and not as a response to immediate needs for impact studies in particular localities;

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3. that the criteria used to design harvest studies, and to collect and analyse data thus obtained, conform to the same standards from community to community, and region to region — so that the resulting information is comparable, and specific findings are useful in understanding larger patterns of hunting activity;

4. that the harvest studies be carried out over a period of time sufficient to allow for periodic fluctuations in hunting intensity, and in the ecological and social conditions that affect hunting patterns;

5. that the overall study be controlled in terms of the data sought, in order to ensure that it is limited to an investigation specifically of harvesting.

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Additional information might be desirable, but should not be incorporated within the subject study; a requirement for too much data would tend to confuse, and not enhance, the knowledge sought.

When the foregoing criteria are reviewed in terms f the definition of harvest studies given above, several major opics for research design can be specified; these will be utlined in the following pages.

POPULATION UNDER STUDY

Harvest studies must attempt to collect information
om the entire population of hunters and their families within
ommunity. Thus, the desire is not to set out a mere adequate
ple, but rather, to obtain full coverage, at the community
el.

To determine the actual hunting population, and
e coverage obtained, the following breakdown is needed:

TOTAL	males 18 years of age or over
MINUS	non-hunters in that year (i.e., sick or disabled, did not hunt that year, or out of the North that year).

This basis for determining the potential hunting
pulation is of vital importance, since all harvest estimates
projections done by computer must be made on the basis of
tal, potential hunters in each community. It is this factor
at controls the relationship between the data collected and
e projections on this data by the computer.

. GEOGRAPHIC LOCATION

It is not possible to designate the location of arvests or kills by detailed geographical areas. Such an pproach would increase the amount of information required in n interview, and would reduce the individual hunter's ability, nd his desire, to record his and his family's harvest data.

Instead, it is suggested that the harvest area be ivided into a series of zones, which can be illustrated on a ap for each community. The method by which the zones are stablished should be simple, so that it can remain constant hroughout the area to be covered. The recommended criterion s that Zone 1 be designated based upon one day's travel out nd back to the community, with Zone 2 to encompass all other unting areas utilized. It is possible that the particular rrangement of hunting camps, or other situations peculiar to settlement, might necessitate the adjustment of these zones, ut this should be done in consultation with the individual ettlements, and in such a way that the areas in question can e readily understood and accurately recorded by the hunters.

I. TIME

"Time" refers to three aspects of the study: irst, the research year to be used; second, the appropriate ime period for people to remember and record their harvest; nd third, the appropriate period for fieldworkers to collect he individual results from the community.

In order to ensure accuracy, it is absolutely ssential that hunting data be recorded as frequently as ossible. In northern Québec, this has been accomplished by sing a week as the base unit for recording harvesting activity. Prior to the recording of weekly harvests, hunters were asked o record their daily catch in individual booklets; the weekly ime periods could then be accumulated in a monthly total by he fieldworkers, this monthly total forming the basis for ertain aspects of analysis. The computer analysis, however, is based primarily upon a yearly figure, except in the case of ish and migratory birds, where seasonality is of critical importance. It is possible for the computer to handle any reakdown desired, but it becomes extremely expensive and time-consuming if too many divisions of data are made. Consequently, it is best, wherever possible, to maintain the year as the computer base unit.

VII. METHOD OF DATA RECORDING: HOUSEHOLD

In order to ensure that data is properly collected, a self-monitoring program should be developed. This would involve the use of small booklets, which hunters could carry with them on the land, and the subsequent use of larger calendars, where the information collected in the booklets could be recorded on a weekly basis. Recording would be done by an individual representing a family unit; thus, the harvest data recorded would represent husband and wife, and their dependent children. Individuals would be asked to record their kills by species as listed on the calendar, and by zones, for the appropriate week.

VIII. METHOD OF DATA COLLECTION: FIELDWORKERS

The self-monitoring system set up in the communities would be checked periodically by fieldworkers, either from within the communities themselves, or from outside. The role of the fieldworkers would be to ensure that all data was in fact recorded by the individual hunters, and to check for peculiarities in the recording and gaps in the record. It has been found that a four-month period is sufficient for this process, since it enables hunters to recall their harvests, should they have been unable to record them at the time of the weekly report.

IX. DATA ANALYSIS AND REPORTS

The analytical side of the harvest study involves the use of electronic data processing equipment. Data obtained from the study is thus stored, and where necessary, converted into weights; from this data, reliable projections can be drawn, based upon the coverage obtained in each community. The details of such projections, outlining the relevant aspects of statistical analysis and computer programming, will be the subject of a separate paper.

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